Vogel Wood Products Corp.

Wisconsin Manufacturing Extension Partnership

Vogel Wood Slices Lead Times with Lean Transformation

Client Profile:
Vogel Wood Products Corp. is a Monona, Wisconsin, manufacturer of wood and laminate cabinetry, fixtures and office systems for home and commercial environments. The company employs 15 people.

Situation:
Long lead times and problems with work flow were creating headaches for Vogel Wood. Company president Bill Vogel saw that changes were needed, so he contacted the Wisconsin Manufacturing Extension Partnership (WMEP), a NIST MEP network affiliate, to help the company implement a Lean Transformation to open up bottlenecks in production and increase production. Vogel Wood soon realized that, like many other companies starting Lean, there were so many possibilities. "We didn't know where to start," said Vogel. Excessive lead time was the main issue they wanted to address. "We were putting in tons of overtime to get orders out the door," said Denita Ward, sales and marketing manager.

Solution:
WMEP led Vogel Wood on their Lean Transformation journey, starting with Lean Culture. Lean Culture is a specific company culture focused entirely on the customer, totally committed to continuous improvement. This concept sets clear expectations so that all employees understand their roles. The Lean Culture infrastructure for Vogel consists of a core team which supports the Lean process and removes roadblocks to implementation and project teams, which work on specific processes to improve efficiency. "We thought it was important to get everybody here on board (with the changes)," said Vogel. Next, they used Value Stream Mapping (VSM), a Lean tool that reveals where waste is occurring. With VSM, a company's processes are detailed and a visual representation is created to illustrate material and information flows. This quickly shows where the inefficiencies are. Vogel Wood mapped their entire process, including the front office, machining and assembly. "By doing the Value Stream Map, we could identify bottlenecks," said Vogel.
The next step was 5S/Visual Workplace, which creates clean, well-organized workspaces for employees. "It's a systematic approach to visually organizing the workstations," said Rick Ray, WMEP manufacturing specialist and portfolio manager for Vogel Wood. "With Lean and 5S, the goal is to work more effectively, not harder." The shop floor "had lots of clutter," said Brian Weeks, WMEP manufacturing specialist who helped Vogel Wood implement 5S. "They were constantly moving things out of the way to get at what they needed to do their work."As they began the sorting process, they were able to overcome the tendency to save unnecessary items. They soon realized that the racks used to store those items were no longer needed, so they were removed, which opened up a lot of floor space. "It allowed them to get the shop floor more organized," said Weeks. In addition, tools that had been stored in fixed locations were placed in carts that can be moved from workstation to workstation. The 5S project also resulted in a cleaner shop floor, which meant that less time was subsequently needed to clean product. As the shop floor became more organized, they were able to

see other places where the work flow was not optimized. It soon became clear that there were no real rules for manufacturing. "Guys were cherry-picking, picking what they wanted to run, not what had to run first so shipments could be made," Ray said. They had been focused on processing orders in batches. Ray suggested they implement First-In First-Out (FIFO) processing. To do this, they created a rule that nothing could be sent to the shop floor as an order unless they had all the necessary materials to complete that order. In addition, employees had to work on the next order in line to ship. These, along with other changes, "unlocked the flow," said Ray. All of a sudden, the WIP inventory that was choking the floor just disappeared." The Lean work extended beyond the shop floor. The Value Steam Map (VSM) showed a time delay from engineering to the shop floor. They have since purchased software to streamline the design process, which is currently being implemented.
Lean Transformation, a superior approach to Lean implementation that uses multiple Lean tools simultaneously, produces dramatic results quickly. One key element was establishing the Lean Culture as people began to see the
positive changes. "The things we learned from Lean have really helped us become more of a team," said Vogel. Doing a full Lean Transformation project means the "get the full value of their effort," said Ray. "If you don't have a culture organized for change, it doesn't work as well." "The principles of Lean are simple," said Ward. The trick is being able to step back to see the places where basic changes can be made that result in real improvements. "Sometimes you're too involved in the process to see it," she said. "What makes Lean so terrific (especially for small and midsize manufacturers) is that you look at the low-cost, low hanging fruit first," said Ray. "You get dramatic results without spending capital. For companies that haven't begun a continuous improvement project, Lean Transformation is a great place to start."

Results:
* Reduced lead time from 6 weeks to 3 weeks.
* Reduced Work in Process by 70 percent.
* Increased sales in 2004/2005 by 7 percent.
* Decreased direct labor and overtime costs by 6.3 percent.
* Increased profits by 4 percent.
* Organized workstations where tools can be accessed in 30 seconds or less.
* Awarded a $5,000 Wisconsin Department of Commerce BEST (Business Employees' Skills Training) grant to offset cost of the project.

Testimonial:
"The things we learned from Lean have really helped us become more of a team."
Bill Vogel, President